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ABSTRACT

The second annual report to Congress describes the status of several current, federally-sponsored driver education programs. These programs are designed for: young beginning drivers (high school students), drinking drivers, other problem drivers, motorcyclists, and physically handicapped drivers. Plans for future programs are described and the first annual report is summarized. (CTM)

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THE DRIVER EDUCATION EVALUATION PROGRAM (DEEP) STUDY

SECOND REPORT TO CONGRESS

July 1976

U.S. Department of Transportation
National Highway Traffic Safety Administration

TM006 832

THE DRIVER EDUCATION EVALUATION PROGRAM (DEEP) STUDY

SECOND REPORT TO CONGRESS

JULY 1976

U. S. DEPARTMENT OF TRANSPORTATION

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

PREFACE

The present report has been prepared in response to Section 226 of the Federal-Aid Highway Act of 1973 (P.L. 93-87), which is reproduced below.

Driver Education Evaluation Program

Section 226.(a), Section 403 of Title 23, United States Code, is amended by adding at the end thereof the following new subsection:

> "(f) In addition to the research authorized by subsection (a) of this section, the Secretary shall carry out research, development, and demonstration projects to improve and evaluate the effectiveness of various types of driver education programs in reducing traffic accidents and deaths, injuries and property damage resulting therefrom. The research, development, and demonstration projects authorized by this subsection may be carried out by the Secretary through grants and contracts with public and private agencies, institutions, and individuals. The Secretary shall report to the Congress by July 1, 1975, and each year thereafter during the continuance of the program, on the research, development, and demonstration projects authorized by this subsection, and shall include in such report an evaluation of the effectiveness of driver education programs in reducing traffic accidents and deaths, injuries, and property damage resulting therefrom."

THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

July 15, 1976

Honorable Nelson Rockefeller
President of the Senate
Washington, D.C. 20510

Dear Mr. President:

Enclosed is the second annual report on the Driver Education Evaluation Program (DEEP) required by Section 226 of the Highway Safety Act of 1973. This report includes the status of activities which have taken place during Fiscal Year 1976.

The Highway Safety Act of 1966, as amended, and the National Traffic and Motor Vehicle Safety Act of 1966, as amended, require that the annual reports specified in the Acts be submitted by July 1 of each year in lieu of March 1 as was the case in the original legislation.

Section 226 of the Federal-Aid Highway Act of 1973 (P.L. 93-87), as amended, requires that the annual report on driver education programs specified by the Act also be submitted by July 1 of each year.

A considerable effort is made to cover national highway safety activities comprehensively in the annual reports called for in the two Acts of 1966. They would not be complete without including work in the driver education program area. Therefore, in the interest of economy and efficiency, and unless the Congress has objection, the National Highway Traffic Safety Administration intends to make this coverage also serve the annual reporting requirements of the Federal-Aid Highway Act of 1973.

Sincerely,

William T. Coleman, Jr.

Enclosure

THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

July 15, 1976

Honorable Carl Albert
Speaker of the House of
Representatives
Washington, D. C. 20515

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INTRODUCTION

Section 226 of the Federal-Aid Highway Act of 1973 [1] required the Secretary of Transportation to: (a) carry out a program to improve and evaluate the effectiveness of driver education programs; and, (b) report to the Congress each year on the status of that program as well as the status of driver education development and effectiveness in general. The first such report [2] was provided to the Congress in July 1975. This report included a discussion of: (a) the context within which driver education as a highway safety countermeasure must operate; (b) the historical development of driver education in the United States; (c) studies which have been conducted to determine the effectiveness of driver education; and, (d) the role of the National Highway Traffic Safety Administration (NHTSA) in the development and evaluation of this traffic safety measure. A summary of the findings of the first annual report to the Congress can be found in Appendix A of this report.

Since the history and the overall status of the Nation's driver education activities have not changed significantly since the original report was issued, a discussion of this aspect is not included in the present report. Rather, this second report to the Congress on the Driver Education Evaluation Program (DEEP) will concentrate on development and evaluation activities which have taken place as a part of this Federal program*. In order to provide the reader with some continuity for the various individual projects which will be described, the report is organized relative to various "target" groups. First, recent educational efforts designed primarily to affect the young beginning driver will be described. This will be followed by a discussion of newly developed or implemented programs aimed at problem drivers, motorcyclists, and handicapped drivers respectively. A brief description of new directions which the NHTSA will be exploring in the future relative to both young beginning drivers and potential problem drivers along with a discussion of plans to revise the present driver education standard concludes the report.

* Such activities include those of (1) the Office of Driver and Pedestrian Research (Research and Development) and (2) the Office of Driver and Pedestrian Programs (Traffic Safety Programs) of the NHTSA.

PROGRAMS AIMED AT THE YOUNG BEGINNING DRIVER

A. Safe Performance Curriculum (SPC)

At the core of the NHTSA's Driver Education Evaluation Program is the development and evaluation of a model secondary school driver education curriculum called the Safe Performance Curriculum (SPC). Figure 1 summarizes the major phases of this effort which began in 1968. As of the last reporting period, all phases of this effort had been completed except for the demonstration phase. During this phase, the crash-reduction potential of the curriculum will be determined by means of a large scale evaluation project. The design of this proposed project is shown in figure 2.

As is evident from figure 2, the SPC project requires that large numbers of students be randomly assigned to education and no-education groups. A location in which driver education is not presently being offered to a large proportion of eligible students would be most conducive to the success of this project. In such an environment, some proportion of eligible students could be systematically offered an opportunity to take driver education rather than systematically depriving some proportion of eligible students of such an opportunity for which they had developed an expectancy.* Because of the extent to which driver education has been promoted in the United States, such a location (wherein appropriate officials are interested in participating in such a project) has been difficult to find.

The NHTSA solicited proposals to conduct the SPC demonstration in calendar year 1975. However, a review of the proposals submitted in response to this request resulted in none of them being judged as acceptable. A major problem appeared to be related to the desirability of finding a location with little or no ongoing driver education activity. In such locations, however, anticipated project costs were greater than the Federal funds then available. As a result, in calendar year 1976, the amount of the Federal funds allocated to this project was increased and the NHTSA solicited new proposals. Proposals have been received and are being evaluated. Unless there are again no acceptable proposals, it is anticipated that a contract will be awarded and that the project will be undertaken within the present calendar year.

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* The issues associated with the requirement of random assignment are more thoroughly discussed on pages 39-42 of the 1975 DEEP Report (2).

FIGURE 1

HISTORY OF THE SAFE PERFORMANCE CURRICULUM (SPC) DEVELOPMENT AND EVALUATION

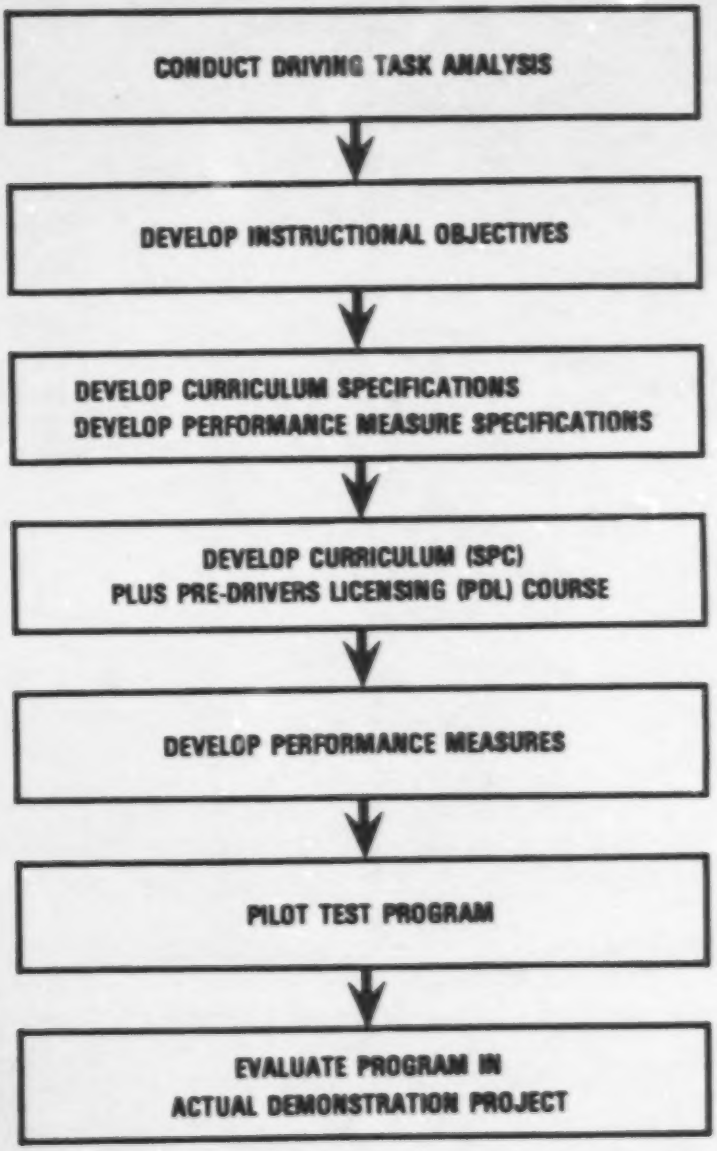
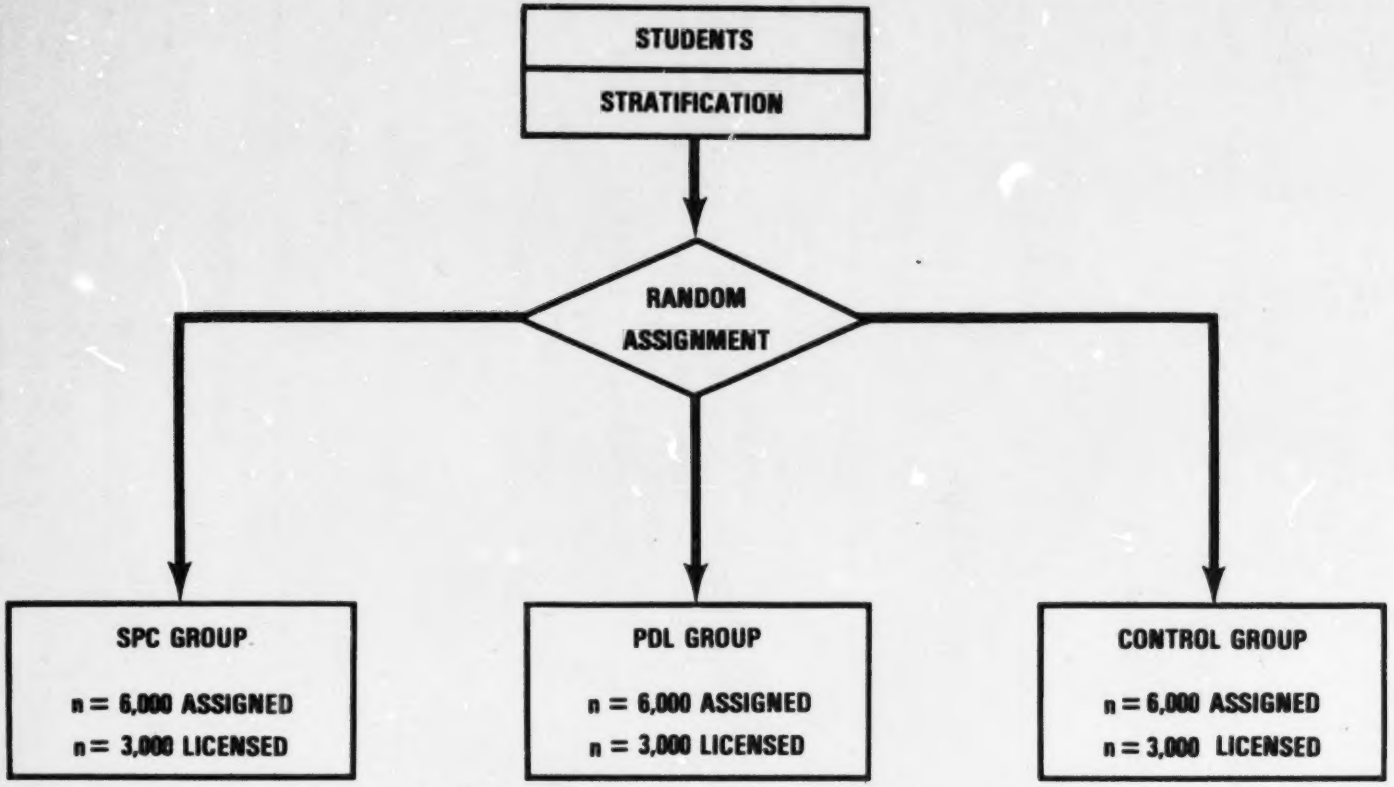


FIGURE 2

EXPERIMENTAL DESIGN FOR THE DEMONSTRATION OF THE SPC CURRICULUM



- PERFORMANCE MEASURES ANALYZED IMMEDIATELY
- DRIVER RECORDS KEPT AND ANALYZED FOR 2 YEARS

13/14

B. Accident Avoidance Skills Program

While applicable to any age group, training in accident avoidance has recently been incorporated into a number of young beginning driver education programs. The NHTSA has recently been active in developing such a program in a manner similar to that by which the SPC was formulated. The first two phases in the development of this program were completed during the past calendar year, and the technical report covering these two phases is available through the National Technical Information Service.[3] The first phase involved the identification of the behavioral requirements for responding to a representative set of accident avoidance situations. Two approaches were taken. In the first approach, an analysis of in-depth accident investigation data was conducted to determine the frequency of various multi-vehicle accident situations and to develop a hierarchy of maximally successful avoidance responses. Independent of this approach, analyses were conducted on a number of potential accident situations to identify knowledge and skill requirements for successfully avoiding a collision.

In the second phase of the project, data gained in phase I was used to define the specifications for a training program and an initial program was developed. The specifications called for a modularized training and testing program and identified the resources which were needed. The preparation of training materials was begun, and a prototype "bimodal" driving simulator was constructed. A contract has recently been awarded to complete this developmental effort and to pilot-test the program. Determination of the program's crash reduction potential will require a major demonstration program. Current plans call for implementing this program in Fiscal Year 1979-80.

C. Parent Participation Program

One program which was briefly described in the 1975 DEEP report and in which progress has been made in the past year, is the parent-participation project. Guidelines were developed for parents to become active in the driver education process. This activity, in addition to providing close, organized parental supervision over an extended period of time, has the bonus of teaching parents safer driving practices. During Fiscal Year 1976, instructional materials (i.e. parent handbook, implementation guide for instructors, and instruction cards) were prepared and the program was pilot-tested in three schools: an affluent suburban school; a middle-class urban school; and an inner-city urban school.[4] The program was available in two forms: (1) a model program which included full parent participation including

meetings with driver educators; and, (2) a materials-only program wherein all of the materials were made available to the parents of young beginning drivers. The primary purpose of this pilot study was to determine the response of the parents to the program.

The response on the part of the parents in the urban schools was limited to the extent that only the abbreviated (materials-only) program could be carried out in these schools. Both the model and abbreviated programs were implemented in the suburban school. The results suggested that most of those parents who participated in the program were enthusiastic and positive in their reaction. Ratings of the program materials, by both parents and instructors, suggested that they were both useful and easy to understand.

A primary obstacle to the success of this program is the limited desire of parents to get involved. It is not clear how this problem should be approached. Further, in order to get an assessment of the effectiveness of such an approach in terms of crash reduction, large numbers of students and parents will have to be involved. This, of course, would be costly.

Other than offering the existing program materials to the States for their use and promotion as they see fit, there is little activity anticipated in this area for the immediate future. The only vehicle presently available for an NHTSA evaluation of these materials appears to be the SPC demonstration. As a result, an attempt will be made to incorporate such materials into this project if there is sufficient parental interest.

One major problem must first be overcome, however. The SPC demonstration is not a promotional project. It is an evaluation effort. As such, strict experimental design requirements must be adhered to. Perhaps the most significant of these requirements is that large numbers of persons must be involved in both education and no-education groups, and that persons must be randomly assigned to these groups. As a result, it would appear that the parents of several thousand students would have to be recruited to take part in the program in order to be consistent with the research design. Obtaining the participation of that number of parents does not appear to be highly probable at this time.

D. Youth Alcohol Safety Education Curriculum

The original report to Congress suggested that there was a strong interaction between youth and drinking-related crash causes. As a result, the NHTSA has initiated a project to develop an alcohol education curriculum with crash reduction potential for use in secondary schools. It is intended that this project will include its own demonstration phase now planned for Fiscal Year 1977. The curriculum itself is being designed so that it may be incorporated: (1) as a part of ongoing driver education; (2) as a separate "mini" course in the secondary school curriculum; or (3) as a component which could be integrated into other subjects. More specific characteristics of the curriculum are that it: (a) can be self-contained; (b) is an inexpensive instructional package; (c) is student-centered; (d) counters common information deficiencies concerning drinking and driving; and (e) is based on youth drinking and driving patterns.

This curriculum development project has been underway since July 1975 and is expected to be completed in June 1976.[5] Plans for the demonstration project will begin soon thereafter. In this project, as in all demonstration projects in the alcohol area, it is anticipated that a location will be selected wherein a proportion of students can be systematically selected to be exposed to the educational program while others are not. Subsequent drinking and driving habits of both groups will then be monitored for two years. The driving records of both groups will be compared to determine crash reduction potential.

E. Young Problem Driver Improvement Demonstration

Another educational project was awarded in July 1975[6] which is intended for young drivers (ages 15-24) who have already been identified as problem or near-problem drivers on the basis of their brief driving records. This project was implemented to evaluate the crash reduction effectiveness of a young driver improvement program. It was prepared by the Texas Transportation Institute in conjunction with the Texas Department of Public Safety. The program is entitled "Driver Responsibilities in the Seventies" (DRIS) and consists of a new therapy approach coupled with innovative visual presentation techniques to reach young problem drivers.

At the six project sites, a total of 4,000 young problem drivers and 4,000 near-problem drivers will be randomly assigned to either an instruction or control group. The driving records of each group will then be monitored and compared for 2 years.

PROBLEM DRIVERS: PROJECTS AIMED AT DRINKING DRIVERS

The drinking driver, regardless of age, presents perhaps the single greatest contribution to fatal and serious injury crashes. As such, the drinking driver is a major target of educational and rehabilitation efforts. This area of activity also provides one of the best examples of NHTSA's goal of furnishing valid scientific support for program effectiveness. Every major program in this countermeasure area involves a rigorous experimental design in order to evaluate the crash-reduction effectiveness of the program. The need for such evaluation efforts is apparent in all areas of traffic safety.

A. Short-Term Rehabilitation (STR) Study

In eleven Alcohol Safety Action Project (ASAP) sites, some portion of the educational and/or rehabilitation efforts intended for convicted drinking drivers has been selected for evaluation against a no-treatment or "minimum exposure" control group. This program began several years ago. However, calendar year 1976 was significant in that the random assignment of clients (nearly 4,000) to the various referral alternatives occurred during that year. This is perhaps the first time that large numbers of persons, from several cities across the nation, have been assigned to treatment and no-treatment groups according to rigorous experimental procedures. All such persons are being monitored through semi-annual interviews, driver records and police records check.[7]

An additional innovative characteristic of this program is that all drinking drivers who enter are evaluated in terms of non-driving as well as driving criteria. A "Life Activities Inventory" has been developed to measure changes in drinking behavior, health, job status and other areas known to be affected by abusive drinking. The rationale behind this approach is that, according to surveys, more than ninety percent of the alcohol-related problems which a problem drinker has, and which concern society as a whole, do not involve driving. The diagnostic and referral mechanisms used for persons arrested for driving under the influence (DUI) are effective means for the early identification of such problems. The NHTSA feels that it is important to measure the effectiveness of such programs in terms of changes in any of these problem areas. Undoubtedly, allocation of available funds will depend on which areas show maximum impact. However, an attempt should be made to measure impact in as many areas of social concern as are practical.

B. Comprehensive DUI Offender Treatment Demonstration

Similar to the Short-Term Rehabilitation study, a new demonstration program is underway which will evaluate both educational and therapy-oriented programs in terms of both crash and non-crash criteria. This project is called the Comprehensive DUI Offender Treatment Project. More than 6,000 DUI offenders will be obtained from a single location (city, metropolitan area or county). These persons will be diagnosed relative to the severity of their drinking problem. Within each drinker category (i.e., social drinker, midrange problem drinker and severe problem drinker) persons will then be randomly assigned to a variety of short-term education, therapy, and no treatment conditions. Each group will be monitored over a period of at least 2 years in order to determine the effects of the various referral options on both driving and non-driving measures. The primary differences between this and the STR project are that the project will be carried out in a single location, and the education and therapy modalities will be determined by the NHTSA. Figure 3 shows the experimental design to be followed. This project will be initiated in calendar year 1976.

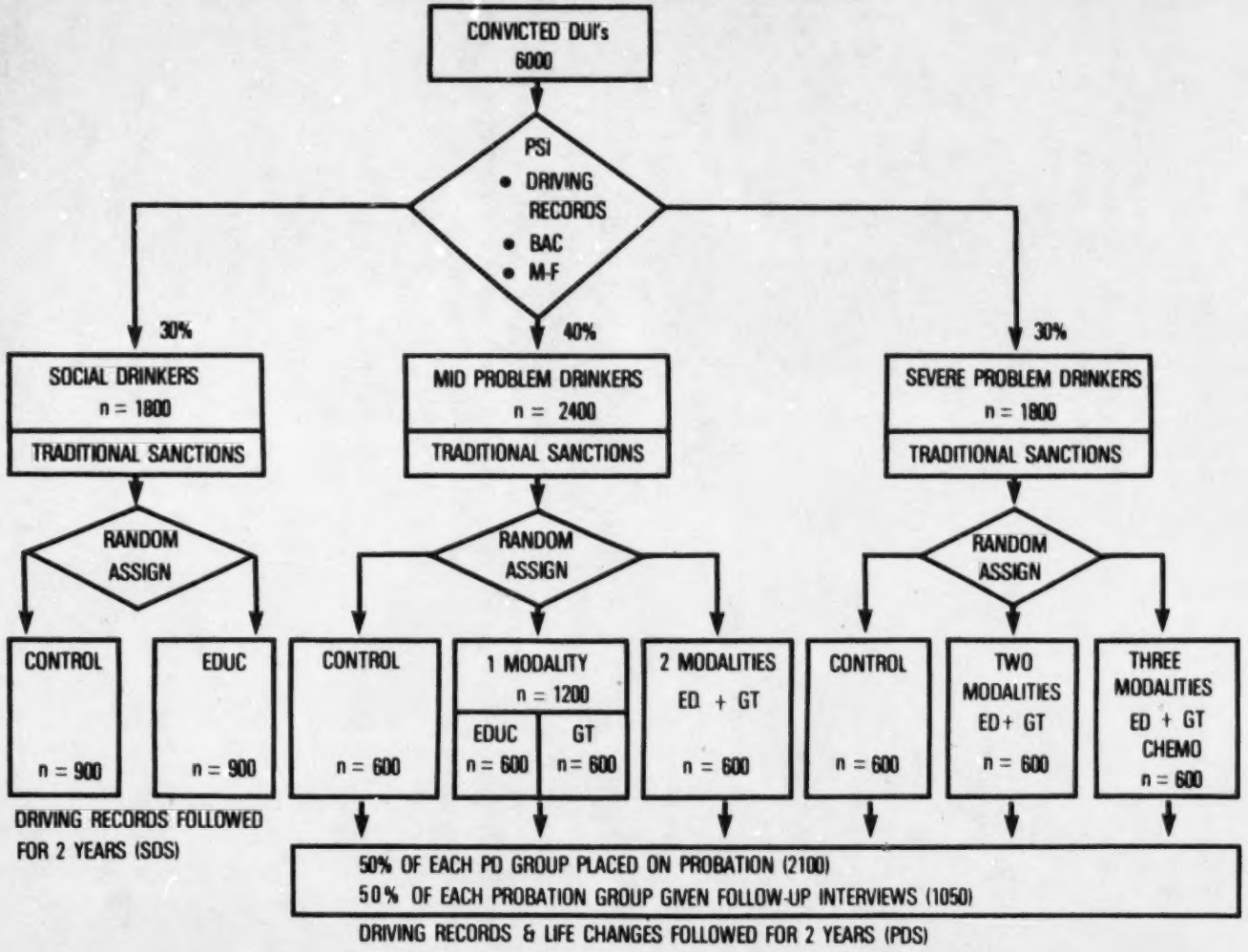
C. Short-Term Rehabilitation II (STR II) Project

Most of the court-related education and therapy approaches to which convicted drinking drivers are exposed, are relatively general. Most are not designed to account for important differences in the causes of the drinking behavior of these persons. As a result, the NHTSA, in close communication with the National Institute on Alcohol Abuse and Alcoholism (NIAAA), has undertaken a development and evaluation effort to provide an individualized court diagnosis and referral system for convicted drinking drivers. This program is designed to account for major differences in the causes of drinking behavior and to identify educational and therapy alternatives which will deal with them.

This project, begun during fiscal year 1976, consists of several phases including: (1) developing a model for diagnosing significant therapy-related differences among convicted drinking drivers; (2) identifying educational and therapeutic objectives based on the unique determinants of drinking behavior (e.g. environmental and peer influence, present skills and resources available to alter drinking behavior, etc.); (3) operating the diagnostic model by developing reliable measurement devices; (4) identifying education and therapy programs which meet the objectives identified by the diagnostic process; and (5) evaluating a model system by randomly assigning some convicted DUI's to such

FIGURE 3

PROJECT DESIGN FOR COMPREHENSIVE DUI TREATMENT DEMONSTRATION PROGRAM



a diagnostic/referral system and others to a traditional system and monitoring changes in their drinking and driving behavior.

The first two tasks were completed during Fiscal Year 1976, and a contract is being let to accomplish task 3. It is expected that the first opportunity to demonstrate the concept will have to await completion of the comprehensive DUI project. The final report covering tasks 1 and 2 is being submitted to the National Technical Information Service.

OTHER PROBLEM DRIVER-ORIENTED PROGRAMS

A. State Driver Improvement Analysis

In June 1974, the NHTSA awarded a contract to conduct an analysis of State driver improvement programs. The purpose of the contract was to (1) identify the current status of driver improvement programs in each of the States, and (2) to uncover those elements of driver improvement programs that have proven successful in the past. Specific recommendations were made for each State. Of these, the following were most often cited: (1) more effective cooperation between the driver improvement system and the court system needs to be established; (2) the manner by which court records are maintained needs to be improved; (3) group educational meetings should be established; and (4) routine evaluation programs should be established. The contract was completed in March 1976 and the information has already been distributed to the States for their use in bettering their driver improvement efforts.

MOTORCYCLIST PROGRAMS

There has recently been considerable activity by the NHTSA, in cooperation with the Motorcycle Safety Foundation (MSF), to develop motorcycle safety education materials. As was indicated in the original DEEP report, these two agencies have attempted to prevent a repetition of many of the problems which occurred in the general driver education area. Their activities have included joint projects in the development of: (1) educational curricula materials; (2) knowledge and performance measurement tests; and (3) training techniques for education and testing specialists. These activities should provide a sound foundation for motorcycle safety education, especially when coupled with encouragement to the States to adopt the same stringent evaluation design procedures as those used in NHTSA demonstration projects. Described below are two of the major NHTSA projects in this area.

A. Improved Motorcycle Licensing and Testing Project

A project was initiated during Fiscal Year 1975, which was not mentioned in the original DEEP report since it concerned licensing techniques rather than education. It has since become apparent, however, that this program has considerable implication for the development of motorcycle education programs. This project entitled the "Improved Motorcycle Licensing and Testing Demonstration" is being carried out in Sacramento, California and in San Diego, California by the California Department of Motor Vehicles (DMV) under contract to the NHTSA. [9]

The primary objective is to demonstrate that a more rigid testing program requiring higher entry skills of novice motorcyclists will result in a lower accident rate during the first year after licensing (which is the most hazardous). Included is a remedial training program for operators who initially fail the rigid testing procedure. This remedial program is designed to raise their skill level to a point where they can pass the test.

A total of 36,000 license applicants over a period of two years will be randomly assigned to one of three licensing groups: (1) to the current California licensing program; (2) to the improved licensing and testing program with remedial skills training given to those who fail the improved test; and (3) to the improved licensing and testing program without remedial training. Those applicants in each group who pass the tests will have their driving records monitored for as long as two years. The driving records of each group will be compared to determine the effectiveness of the improved licensing and testing program.

Because of its comprehensiveness, this project is being implemented through a team effort on the part of several groups. The Motorcycle Safety Foundation (MSF), under a cooperative agreement with NHTSA, has provided valuable assistance in the development of the detailed plan. They have supported the project by providing manuals, and skill tests, and assisting in securing motorcycles and other equipment. The project is supported by two contracts to develop improved knowledge and skill tests as well as an operator's manual. There also is a private agency subcontract with the California DMV to develop the curriculum for the 3-hour remedial training course. A three-month pilot-test of the project operations are now completed, and a two-year operational period is underway. The NHTSA will use the results of this demonstration to encourage and assist other States to upgrade their motorcycle licensing and testing program.

B. Motorcyclist Education Project

A demonstration of a model Motorcyclist Education Project is planned for Fiscal Year 1977 which will involve many of the products developed for the ongoing licensing and testing project. The objective of the Motorcyclist Education Project is to evaluate the crash-reduction effectiveness of a model educational program. This, too, is to be a cooperative NHTSA/MSF effort. A proportion of young prospective motorcyclists will be randomly assigned to a model education program before licensing, while other applicants will not be enrolled in such a program. As in the licensing and testing demonstration, the driving records of both groups will be followed to determine crash reduction effectiveness.

While this demonstration project is now in the initial planning stages, curriculum development is well underway. Preliminary specifications for an 8-unit curriculum were completed in January 1976. These specifications are structured so that persons with widely differing learning needs and interests (e.g. novice, intermediate, or advanced operators) can be accommodated during a single administration of the program by selectively scheduling persons into only those units that will serve their needs.

As part of a cooperative agreement with NHTSA, the Motorcycle Safety Foundation (MSF) is using the specifications to prepare both student and instructor materials. NHTSA's research contractor and the MSF will pilot-test these materials during 1976 by offering the instructional program to approximately 75 persons solicited through radio, TV, and newspaper advertising. The specifications and the course materials will be revised in preparation for further demonstration of their effectiveness.

DRIVER EDUCATION AND TRAINING FOR THE HANDICAPPED

A project focused on driver education and training for the handicapped is underway in conjunction with the Department of Health, Education, and Welfare and in coordination with the Veterans Administration. An in-depth survey of the special driving needs of the handicapped and of the driver education programs designed especially for them has already been conducted. The project will include licensing guidelines for DMV administrators for use with the handicapped. Also provided will be a plan for coordinated interagency research and development programs for driver education and licensing of the handicapped. [10]

POSSIBLE NEW DIRECTIONS IN THE NHTSA'S TRAFFIC SAFETY EDUCATION REPORT

Recently there has been an emphasis in the driver education community to make available comprehensive traffic safety education aimed at a wide variety of driver groups. This effort would be aimed at present and future vehicle "occupants" rather than at existing drivers alone. It would begin much earlier in the education process and include a variety of topics such as seat belt usage, emergency medical services, etc. This program would be designed for passengers as well as drivers of motor vehicles. The NHTSA is supportive of this change in emphasis and is providing information and guidance for a wide range of vehicle occupant groups. In addition, the following innovative activities are being explored.

A. Accident Analysis Project

A project will be initiated by the end of Fiscal Year 1976 to identify model performance in specific driver actions related to accident causation. Objectives for driver training programs have traditionally been developed through "expert" opinion of what constitutes safe or unsafe driving. There have been some comparative studies of experienced and inexperienced drivers on specific driving tasks (especially visual tasks) and other studies comparing "safe" and "unsafe" drivers (variously defined) on general driving performance. The latter studies, however, have generally show few significant distinctions. In the forthcoming study, comparisons between "safe" drivers, and drivers recently involved in accidents will be made in a number of specific driver performance areas known to be causally related to accidents. These comparisons should yield descriptions of "model behaviors" in each of several performance areas frequently reported to be involved in the causation of crashes. These will serve as the basis for instructional objectives for driver training programs.

B. Diagnostic-Remedial Approaches

One of the recommendations included in the 1975 report to the Congress was that a diagnostic-remedial approach to driver education and driver improvement should be explored. This approach is reflected in the second short-term rehabilitation project described in the drinking driver program section. Another such effort was concerned with an overall diagnostic-remedial approach for problem drivers in general.[11] In this project, the contractor reviewed the data available on problem

driver diagnostic and prediction techniques and then developed an assessment model. Performance, biographical, psycho-social, medical and demographic data were organized into levels of observation (i.e. driver records, institutional information and direct measurement). Previously reported relationships of these variables with recognition, risk-taking, and alcohol-related driving errors were surveyed. Finally, a prototype model was developed for assessing driver problems. Included was a 23-item driver profile with scoring keys designed to differentiate the magnitude of problems for seven groups based on age and sex. The degree of specific problems was to serve as a guide for further diagnosis, rehabilitation, and/or penalty measures. Guidelines for use of the various techniques and State requirements for implementation were also listed in the model.

PROPOSED REVISION OF DRIVER EDUCATION STANDARD

In the 1975 DEEP report, it was recommended that the Driver Education Standard be revised to reflect increased emphasis on scientific program evaluation, rather than on program expansion. On January 22, 1976, the NHTSA published in the Federal Register an Advance Notice of Proposed Rulemaking which began the formal process of revising the Highway Safety Program Standards. All highway safety organizations, governmental and non-governmental, were asked to review the current highway safety standards and submit comments concerning their effectiveness, applicability and scope. In addition, citizens and organizations not specifically associated with highway safety were asked to share their opinions concerning highway safety. The closing date for comments was April 21, 1976. The revision process is designed to accomplish the following:

- Eliminate conflicts, inconsistencies and duplication.
- Incorporate new techniques and traffic safety measures developed through research and testing.
- Increase the performance and pertinence of the standards to crash reduction.
- Improve the evaluation of the standards' effectiveness.

The new standards will be developed in a bi-level format. Level I will consist of minimum performance requirements for all States while Level II will contain a number of discretionary components. The discretionary components can be mandatory in a particular State if the conditions in that State so warrant.

The driver education standard is being revised in accordance with the bi-level format. The primary issue to be addressed is evaluation.

A Concluding Remark

As suggested in the Introduction section, it would not be realistic to expect that the history and/or status of driver education at the national level would change dramatically in the year since the original DEEP report was written. To say that no changes have taken place during that time period, however, would be incorrect. First of all, as this report suggests, considerable activity has taken place at the Federal level. Furthermore, it appears that the original DEEP report was received positively by the Traffic Safety Education community. The emphasis which that report placed on scientific documentation of driver education program effectiveness, coupled with the models for such evaluation which have been provided by the NHTSA's newly implemented demonstration projects, have provided a strong incentive for future improvements in driver education evaluation and revision. The intended revision of the Driver Education Standard to put more emphasis on valid program evaluation procedures should add to that incentive. Hopefully, in the coming year, more concrete evidence of individual State efforts to contribute to the proper evaluation of driver education will become available.

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APPENDIX A

A SUMMARY OF THE FINDINGS OF THE FIRST ANNUAL REPORT TO THE CONGRESS ON THE DRIVER EDUCATION EVALUATION STUDY

Section Two: Context

- Section two suggests, with somewhat convincing evidence, that the highway transportation system in the United States is operating with a considerable degree of efficiency in terms of crash involvement per licensed driver or per miles driven.
- This section also suggests that "silver bullet" approaches, or expectations of dramatic crash reductions, are not logically sound. Considerable effort has already been expended to minimize highway-related death and injury rates in the United States. Further reductions will be much more difficult to effect.
- Exceptions to the foregoing suggestion would require a program or an event that would dramatically restrict either 1) *how much* the public drives or 2) *how* the public drives. One example of such an event would be the effect of the 1973-74 fuel shortage on miles driven, on the speed at which they were driven, and subsequently on the reduced crash rate for that time period. Only in crisis situations—or with the recognition of long-term national interest—is it likely that the public will accept such restrictions.
- Traffic safety education is only one of several countermeasure approaches that can be supported in order to maintain or improve the safety status of the highway traffic system.

Section Three: Target Groups

- Information presented in section three suggests that young drivers represent the most problematic group with regard to crash involvement and, from that point of view, offer the greatest potential for reducing crashes of any target group.
- Programs aimed at drinking drivers and motorcyclists and general adult target groups also provide a significant potential for crash reduction.
- Driver errors continue to be the single greatest contributing factor in the causation of highway crashes.

Section Four: History

- Section four provides a chronology of events in the history of High School Driver Education (HSDE) efforts, and suggests four stages to describe that history of events. These stages include: 1) a period of relatively uncontrolled development, 2) a period of expansion and attempts to organize the area, 3) a period of criticism of HSDE effectiveness, and 4) a period of increased accountability and emphasis on curriculum development and evaluation.
- The Highway Safety Act of 1966 and its resultant research and development efforts (sec. 403 of the act), have contributed significantly to the development of a model for HSDE curriculum development and evaluation.
- Unfortunately, the primary impact of the Driver Education Standard which developed from the 1966 act (sec. 402), has been to emphasize further the expansion of HSDE in the States before programs have been developed adequately and their effectiveness documented. This effect has continued in spite of the specific criticisms of this aspect of HSDE in the late 1960's.

- Much emphasis in the driver education areas is now being placed on education programs for a variety of driver groups, on multiphase programs for the secondary school, and on performance-based (rather than time-based) programs.
- Approximately 73 percent (or about 2.6 million) of eligible students are now being exposed to HSDE efforts at an estimated annual cost of at least $200 million (2.6 million students at $76.32 per student).

Section Five: Effectiveness of HSDE

- The goal of HSDE, as a federally subsidized highway safety measure, is to reduce crashes.
- Section five points out that early studies, which claimed HSDE to be 50-percent effective in reducing crashes and violations, had gross methodological deficiencies and that their conclusions were incorrect.
- Studies by independent researchers accounted for most of such claimed effect in terms of differences in exposure, personality, or other self-selection factors.
- Recent studies have involved more substantial efforts to control for such extraneous variables, but no such study has succeeded in producing unequivocal results concerning HSDE effectiveness (or the lack of it).
- No study is capable of *proving* that HSDE is (or is not) effective in reducing crashes. Further, only a substantial body of controlled investigations with relatively consistent findings can provide acceptable support for such an effect, or the lack of it.
- To date there is no acceptable experimental evaluation of HSDE. Studies by critics, as well as studies by proponents, have contained substantial methodological problems.

Section Six: Issues

- The most proper way in which to determine the effectiveness of driver education is by means of a study based on a random assignment, control group, experimental design.
- Driver education programs cannot be expected to improve unless they are implemented in a manner that allows accurate feedback with regard to their present effectiveness. Without such feedback, there is no incentive to modify such programs.
- The history of HSDE appears to have skipped the developmental requirements of 1) objective-based curricula and 2) program-evaluation-documenting effectiveness before program expansion begins.
- Two of the reasons for the difficulty in evaluating HSDE are the commonly held belief that it is effective, and the fact that insurance companies and some State licensing agencies provide incentives for HSDE graduates based on this undocumented assumption.
- An additional reason for the difficulty in documenting crash reduction effectiveness is that the variation due to error and procedural differences in motor vehicle records may be as great as the variation effect (i.e., reduction) that is expected to result from a particular program.
- There is obviously extreme variation among HSDE programs, with regard to teacher preparation, program content, and facilities available. It would be difficult to support guidelines intended to improve course standardization in these areas without some objective research evidence concerning the factors that are important in contributing to program effectiveness (e.g., the use of professional vs. paraprofessional instructors for in-car training).
- The instructor, his motivation, and his competence are probably the most significant variables that contribute to potential HSDE effectiveness. How to identify, quantify, develop, and evaluate such instructor factors involves a very extensive evaluation process that has not been adequately pursued to date.

- The driver education concept has been expanded to a number of overlapping target groups, including 1) drinking drivers, 2) special vehicle groups, 3) elderly persons, 4) handicapped persons, 5) problem drivers, and 6) general adult populations. Collectively, such programs, with the addition of predriver (K-12) programs, constitute the traffic safety education area.

Section Seven: NHTSA Approach to Evaluating the HSDE Area

- Following the recommendations of the Highway Research Board in 1968, the National Highway Traffic Safety Administration (NHTSA) has pursued a long-term plan aimed at the development of an objective- and performance-based HSDE curriculum.
- The development and pilot testing of this curriculum has proved to be a considerable stimulus for the improvement of existing HSDE programs.
- An initial pilot test of this program has provided indications that, with some adjustments, the program will be acceptably effective in meeting its instructional and performance objectives.
- An assessment of the effectiveness of this program, in terms of crash reduction, will be pursued in demonstration programs to be implemented in the near future.
- The NHTSA has taken the position that an HSDE program that is 10-15-percent effective in reducing the crash involvement probability of persons exposed to it is feasible and represents a reasonable expectation.
- Such an effective program, even if implemented on a massive scale, would not result in a *dramatic* overall crash reduction. Such a program, however, would be cost effective.

Section Eight: Other NHTSA Education Activities

- A demonstration program concept provides the basis for the current NHTSA approach in this area. Such programs are developed and initiated for the express purpose of evaluating the crash reduction potential of various educational countermeasures approaches. Research and development efforts are being directed to the development of the countermeasure components for such projects.
- Contrary to the suggestions by some researchers (33), the research evidence does *not* support the conclusion that "more directive" programs, such as court or motor vehicle programs, provide more potential for behavior modification than does HSDE. On the contrary, it appears that controlled studies in the driver improvement area (137) and in the alcohol education area (140, 142) have shown no consistent positive findings with regard to the effectiveness of such programs in reducing crashes, and controlled studies in industry are particularly absent. Further, there appear to be just as many poorly controlled studies reporting positive [illegible] effects in HSDE as in any other area.